3. Policy Guidelines

3.1. Eligibility

When an application for traffic calming is received, it will be evaluated to determine if the impacted area is eligible for traffic calming. Eligibility includes meeting threshold criteria that determine whether traffic calming is likely to be the solution. It will also evaluate the engineering aspects to determine if there is a practical safe solution at a reasonable cost which solves the problem without creating more problems. The solution may also be modified by special considerations, especially emergency response needs.

3.1.1. Criteria

As discussed in the Objectives section above, the minimum base criteria for installation of traffic calming measures are:

- "Critical" speed in excess of posted speed by 5 mph
- Average Daily Traffic (ADT) over 1000 vpd

Either of these base criteria can be adjusted by each of the following:

- Every 1 mph of "Critical" speed in excess of 5 mph over posted can equal 200 vpd
- Every 200 vpd over 1000 can equal 1 mph of "Critical" speed
- Every 5 mph of peak speed over the posted speed can equal 2 mph or 400 vpd.
- Every 5% of cut-through volume over 20% can equal 1 mph or 200 vpd

If a street were not over the speed criteria, but well over the volume criteria, the additional volume would compensate for the lack of a speeding problem. Likewise if the volume criteria is not met, but the critical or peak speeds are well in excess of the posted speed, the traffic calming criteria may be met by using the excess speed to equate to volume. City staff will calculate the eligibility criteria in the most favorable manner to promote eligibility for applications.

3.1.2. Engineering

A focused speed and volume survey will be conducted when an application is received at the location of the requested traffic calming installation. Input from the neighborhood will be sought before the speed survey is conducted regarding the critical time of day and day of the week on which to focus the survey. A cut-through volume survey will only be conducted if specifically requested, or if staff believes that excessive cut-through volumes are present.

City engineers, or consultants hired by the City, will prepare an engineering study, evaluating the impacts and effectiveness of each traffic calming measure, and combinations of measures, towards solution of the particular problem. The study will evaluate the geometry of the intersections and street sections to determine where and how measures can practically be installed. The study will include a cost estimate.

The study will evaluate the ability of vehicles, including large trucks, emergency vehicles, motorcycles and bicycles to negotiate the traffic calming system. Specialized computer programs, such as AutoTurn may be used for this evaluation. The study will also evaluate travel paths for bicycles and pedestrians. The engineering study will also evaluate the potential for impacts at locations other than the location being considered.

3.1.3. Safety

The eligibility criteria will also study the safety of the installation. The safety study will examine all aspects of improving safety and assuring that other safety aspects are not diminished. At a minimum, the safety study will examine:

- Traffic safety, such as visibility of obstructions
- Sight distance, such as the ability to see objects in the road ahead of a vehicle and traffic at corners
- Pedestrian safety, and
- Bicycle safety

3.1.4. Other Considerations

American with Disabilities Act (ADA)

A situation could arise in which a person with a disability protected by the ADA would be denied ingress or egress to the person's place of residence because of the impact of a traffic calming measure. That person should be able to reasonably demonstrate that the measure would aggravate the protected disability. In that situation, any traffic calming plan under consideration would need to be modified to provide an unobstructed route of ingress and egress to the person's residence.

Speed Hump Policy

The City of Belmont passed a Speed Hump Policy on April 9, 1996 (see Appendix D) which sets specific criteria for eligibility for speed humps based on street section and grade. The policy prohibits speed humps on designated local emergency vehicle routes. This policy has been interpreted to apply to all vertical traffic calming measures, and is maintained in this program.

The Speed Hump Policy may be revisited in the future based on new technologies for vertical measures, such as speed cushions, split speed humps, speed tables and raised intersections. Revisions to this policy will require separate action by City Council in cooperation with the South County Fire Department and the Belmont Police Department.

Samtrans

There are several bus routes through the City of Belmont on residential streets. Impacts to Samtrans equipment fleet will also be considered.

3.2. Priority

There are two principal methods for determining the priority of applications for traffic calming: 1) first submitted application or 2) ranking by score. The "first-come, first-served" method is fair in that those areas, be they neighborhoods or a few neighbors at a problem spot location, where the application process is completed first, which often takes a fair amount of effort by the applicants, are the first considered. The drawback is that areas which need traffic calming more, especially those that cover larger area, will take longer to complete the application process, and will have to wait to be implemented. The benefit is that each application is considered on its own merits against the set criteria, and if it passes muster it is implemented.

If all projects submitted in a given period are ranked in order of priority, the most deserving project will be implemented first. The drawback is that the less effective projects that are considered important to the applicants may have to wait. This can be overcome by including wait time in the ranking factors. Other ranking factors include:

- Effectiveness – using the same factors as the eligibility criteria, this score is the mph that the posted speed is exceeded
- Coverage – the area covered by the measures or the number of households served
- Cost – the cost of the measure as an indicator of practicality. More expensive projects achieve a lesser score.
    - Cost per capita – the cost divided by the number of households served
    - Cost/Benefit – the cost per mph over the posted speed

The City of Belmont program will initially be request driven, where priority will be based on the date of the request. If more than one request is received in a short period, i.e., the same day, ranking will be used to determine priority. The Task Force has recommended that a City-wide traffic calming study be considered to determine where traffic calming is needed the most, and implement in the order of priority by score.

3.3. Quality

Some traffic calming measures, such as speed humps, are relatively inexpensive at approximately $3000 to $4000 each. A generic non-landscaped traffic circle can be constructed for approximately $5000 to $8000, depending on size. A fully landscaped traffic circle, with irrigation, can cost $30,000 to $40,000. Some measures have relatively little variation in the quality of the design, so the cost per unit is relatively fixed. These measures are speed humps, speed tables, raised crosswalks, striping and signing. Even in these categories, use of special pavements or paver blocks will improve the aesthetics of the installation, but will also increase the cost. Likewise, use of prefabricated measures may reduce the cost, but also may not look as nice.

Other measures can be constructed with a wide range of design options that address various levels of aesthetic, compatibility and maintenance concerns, resulting in a wide

range of costs. A traffic circle may be a simple ring of asphalt curb on the existing pavement with signs, costing in the $5000 to $8,000 range, or it can include concrete truck aprons, quality landscaping, automatic irrigation and decorative signs, costing in the $30,000 to $40,000 range. Adding special pavers, decorative walls, and architectural details can enhance the quality of the installation, and increase the cost even more.

Other examples of measures with wide ranges of design options are chokers, neck-downs and chicanes. Like circles, these can be generic asphalt leaving the existing curb line intact or they can reconstruct to provide a seamless extension of the curb, including new catch basins and pipe extensions, large irrigated landscaped areas, paver block pedestrian areas, crosswalks and ramps, modified signage and relocated pedestrian push button for signalized intersections. Depending on the width and length of the measure, costs can exceed $50,000 per location for a high aesthetic/low maintenance design.

Generic low budget traffic calming measures provide essentially the same traffic calming effect as the expensive designs. There is evidence that landscaping and special pavement indicate a more pedestrian friendly street, causing drivers to slow even more. The low budget designs would result in more traffic calming projects being constructed within the same budget allocation. The low budget designs also require less maintenance, primarily consisting of repairing the asphalt curb and cleaning the area periodically. Mid-budget designs, such as landscaped without automatic sprinklers are often extremely high maintenance which, if not done, will look worse than the low-budget designs. The high aesthetic/low maintenance designs normally result in less maintenance than the low budget designs, especially if they are “adopted” by the neighborhood.

Other tradeoffs of the low budget designs are possible conflicts with urban design goals of the General Plan and less sense of permanence for residents who may make decisions about their residence (purchasing, upgrading, etc.) based on a permanent traffic calming plan. For these reasons, this program recommends that the low budget designs for traffic calming measures will usually not be appropriate in Belmont. The high aesthetic/low maintenance designs should be proposed for all traffic claming measures

3.3.1. Visual Concerns

The traffic calming measures resulting from high aesthetic designs can be visually pleasing by introducing landscaping into formerly paved areas. However, since these measures are intended to pose obstacles to drivers, they must be well signed, striped and reflectorized to avoid safety problems and limit potential liability exposure for the City. Some measures integrate visibility with aesthetics better than others. Traffic circles offset the reflectorized delineator poles and signs with landscaped features. Speed humps only increase visual clutter, with highly visible striping on the hump and warning signs.

Negative visual concerns should be considered in the development of a traffic calming plan, especially considering the multiplication of the effect from a series of measures when viewed from the end of the street. Likewise, a positive aesthetic will multiply into an overall neighborhood enhancement. These visual considerations should be a part of residents decision making process in requesting traffic calming measures.